PATENT SPECIFICATION

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COMPLETE SPECIFICATION.

Improvements in or relating to a Method of Constructing Roads or the like Employing Cast-iron Elements.

We, THE STAVELEY COAL & IRON COMPANY LIMITED, a British Company, of Staveley, near Chesterfield, in the County of Derby, and RENE FABRY, a British Subject, of 19, Cromwell Road, Chesterfield, in the County of Derby, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention is for improvements in or relating to a method of constructing roads and the like employing cast-iron elements.

An objection frequently experienced with roads and the like, is that the surface of the road when made of tar macadam or similar material becomes uneven owing to the lateral displacement of portions of the aggregate layer on the surface, owing to pressure. It is an object of the present invention to overcome this disadvantage.

According to the present invention there is provided a method of constructing a road surface by the use of mutually abutting flat cast-iron elements laid over a shaped bed or foundation and covered with aggregate, characterised (a) by the fact that the elements are formed as grids having deep upstanding webs with through-way apertures between them to constitute the grid structure and having a surrounding frame (with or without means to interlock with neighbouring grids and prevent relative vertical displacement) and (b) by the fact that the elements are located in and wholly covered with aggregate so that the webs extend through the greater part of the depth of the aggregate and positively prevent lateral displacement thereof. The elements according to this invention do not however extend through to the wearing surface of the road.

The cast-iron element may be in the form of a rectangular frame comprising a plurality of webs extending parallel to each of the sides thereof and intersecting one another whereby the aggregate is divided into separate sections through the greater part of its depth.

[*Price* 1/-]

We are aware of prior British Patents Nos. 239,014 and 271,664 and make no claim to anything described or claimed therein.

A road construction according to the present invention will now be described by way of example with reference to the accompanying drawing, in which:—

Figure 1 is a plan view of a square element.

Figure 2 is a section through the line 2—2 of Figure 1, and

Figure 3 is a section through a road made in accordance with the present invention.

Like reference numerals refer to like parts throughout the several Figures of the drawing.

As shown in Figures 1 and 2 the cast-iron elements are in the form of grids, comprising an outer frame 12 and transverse intersecting upstanding webs 13. The spaces between the upstanding webs 13 form clear passages through the element from top to bottom so that is constitutes a grid.

The bars are so shaped that they taper from the base to the top, so that they are narrower at the top than the bottom. The grid shown in the drawing is square in plan, and the webs 13 extend parallel to the sides 12 thereof and intersect one another.

The outer walls 12 of the frame are cast with accompanying projections and recesses so that when the frames are interfitted in making a roadway, relative vertical displacement at the joints is positively prevented. As shown in the drawing the frame has projections 14 upon two adjacent sides and recesses 15 in the remaining two sides. In this way each element may be cast alike, so that the projections 14 in one element may fit in the recesses 15 in another element.

Figure 3 is a section through a road, and shows the method of constructing a road surface by the use of interfitting cast-iron elements, or grids.

The grids are laid over a shaped bed or foundation 16, and are wholly covered with aggregate 17. The depth of the webs 13 is such that the greater part of the

depth of the aggregate layer lies in the spaces between the webs and is thereby positively prevented from lateral displacement.

In this way the greater part of the depth of the aggregate is contained within the separate compartments formed by the intersecting webs 13, thus dividing that part of the aggregate layer into separate sections.

Sufficient aggregate however is provided so as to cover the tops of the grids. This enables the top surface to be formed or shaped in any convenient manner.

By the use of deep webs such as 13 the road is effectively strengthened, and moreover by positively holding the surface layer against lateral displacement, within the compartments formed by the intersecting webs, the road surface tends to remain more even than it would if it were not so constrained against lateral movement.

The foundation layer 16, and the aggregate layer 17 may be formed of any suitable material.

It will be appreciated that although the grid described and shown in the drawing is square, any convenient shape of grid may be employed so that they may mutually abut when laid. In the case where square shaped grids are used as shown in the drawing, it will be necessary to provide special shaped grids for carrying the road around curves. In such cases the grids may be trapezoidal or other convenient shape.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A method of constructing a road surface by the use of mutually abutting flat cast iron elements laid over a shaped bed or foundation and covered with aggregate characterised (a) by the fact that the elements are formed as grids having deep upstanding webs with through-way apertures between them to constitute the grid structure and having a surrounding frame (with or without means to interlock with neighbouring grids and prevent relative vertical displacement) and (b) by the fact that the elements are located in and wholly covered with aggregate so that the webs extend through the greater part of the depth of the aggregate and positively prevent lateral displacement thereof.

2. A cast iron element for road construction as claimed in Claim 1 wherein the frame is rectangular and comprises a plurality of webs extending parallel to each of the sides thereof and intersecting one another.

3. A cast iron element for use in the method of road construction as claimed in Claim 1, wherein the outer walls of the frame are cast with accompanying projections and recesses so that when the frames are interfitted in making a roadway relative vertical displacement at the joints is positively prevented.

4. A cast iron element for use in the method of road constructions as claimed in Claim 1 and Claim 3, wherein the frame has projections upon two (for example adjacent) sides and recesses in the remaining two sides, whereby each element may be cast alike.

5. A cast iron element for a road construction formed and arranged substantially as illustrated in the accompanying drawing.

Dated this 18th day of March, 1932.

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Chartered Patent Agents.

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Fig. 2.

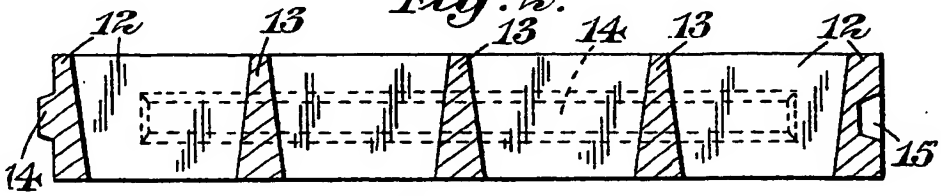


Fig. 1.

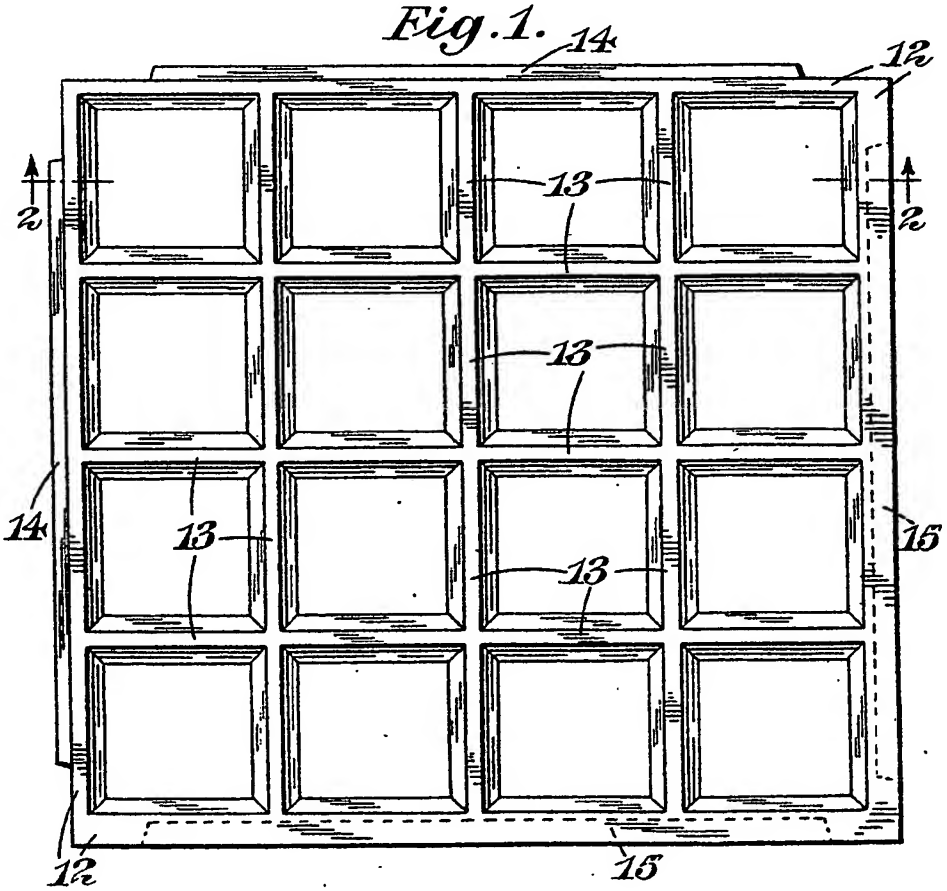
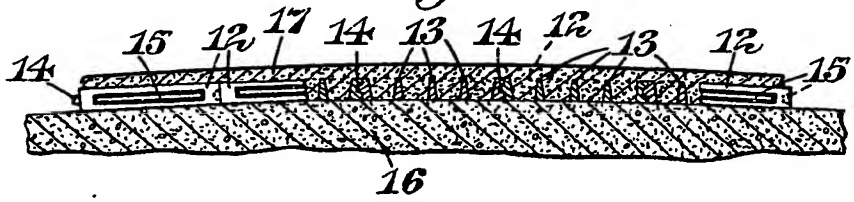


Fig. 3.



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